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CLAIMS

1. A belt conveyance apparatus comprising:
a drive roller;
5 a driven roller rotating in accordance with an operation of the drive roller;
a conveyance belt engaged with the drive roller for rotationally driving the conveyance belt and the driven roller, the conveyance belt being provided
10 with a bead formed on an inner side thereof; and
driven roller support means for movably supporting the driven roller in a thrust direction,
wherein, in operation, ends of the drive roller and the driven roller interface with the bead of
15 the conveyance belt so as to restrict a deflection of the conveyance belt in the thrust direction, and the driven roller is movable in the thrust direction against a deflection of the conveyance belt.
- 20 2. The belt conveyance apparatus as claimed in claim 1, wherein the bead is formed on each side of the conveyance belt in a direction of width thereof, and a clearance between a first end of the driven roller and the driven roller support means on a side of the first
25 end of the driven roller is greater than a sum of a

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first clearance between a second end of the driven roller and the bead located on a side of the second end of the driven roller, a second clearance between a first end of the drive roller and the bead on a side of the first end of the drive roller, and a third clearance between a second end of the drive roller and the bead located on a side of the second end of the drive roller.

3. The belt conveyance apparatus as claimed in claim 1, wherein the bead is provided on an inner side of the conveyance belt, and a groove is formed on a circumferential surface of the drive roller so that the bead is brought into engagement with the groove.

4. The belt conveyance apparatus as claimed in claim 1, wherein a coefficient of friction between an end portion of the drive roller and the bead is set smaller than a coefficient of friction of a center portion of the drive roller and the bead.

5. The belt conveyance apparatus as claimed in claim 4, wherein a taper is formed on an end surface of the drive roller so that, in an unoperated state, a non-tapered portion of the end surface overlaps a side surface of the bead.

6. The belt conveyance apparatus as claimed in claim 5, further comprising a first rotational member constituting the center portion of the drive roller and
5 a second rotational member constituting the end portion of the drive roller, wherein an outer diameter of the second rotational member is within a range of ± 1.0 mm of an outer diameter of the first rotational member.

10 7. The belt conveyance apparatus as claimed in claim 5, wherein a taper angle of the taper with respect to the end surface of the drive roller is set in a range from 10 degrees to 45 degrees.

15 8. The belt conveyance apparatus as claimed in claim 1, wherein an axis of the drive roller and an axis of the driven roller are substantially perpendicular to a direction of conveyance of a paper sheet, and the axis of the driven roller is inclined
20 with respect to the axis of the drive roller.

9. The belt conveyance apparatus as claimed in claim 8, wherein the bead is formed on one side of an inner surface of the conveyance belt so that, in an
25 operated stated, the bead interferes with a lower one of

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opposite ends of the driven roller in operation. .

10. The belt conveyance apparatus as claimed
in claim 9, wherein a taper is formed on an end surface
5 of the drive roller so that, in an unoperated stated, a
non-tapered portion of the end surface overlaps a side
surface of the bead.

11. The belt conveyance apparatus as claimed
10 in claim 10, wherein a taper angle of the taper with
respect to the end surface of the drive roller is set in
a range from 10 degrees to 45 degrees.

12. The belt conveyance apparatus as claimed
15 in one of claims 1 to 11, wherein a frictional force in
the thrust direction between the driven roller support
means and the driven roller is smaller than a frictional
force of the driven roller and the conveyance belt.

20 13. The belt conveyance apparatus as claimed
in claim 1 to 11, wherein a coefficient of friction
between the drive roller and the conveyance belt is
greater than a coefficient of friction between the
driven roller and the conveyance belt.

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14. The belt conveyance apparatus as claimed in claim 1 to 11, further comprising pressing means for pressing the conveyance belt to the drive roller, wherein the pressing means is located at a position
5 opposite to the drive roller with the conveyance belt interposed therebetween.

15. An image forming apparatus comprising:
image forming means for forming an image; and
10 a belt conveyance apparatus including:
a driven roller rotating in accordance with an operation of the drive roller;
a conveyance belt engaged with the drive roller for rotationally driving the conveyance belt and
15 the driven roller, the conveyance belt being provided with a bead formed on an inner side thereof; and
driven roller support means for movably supporting the driven roller in a thrust direction,
wherein, in operation, ends of the drive
20 roller and the driven roller interface with the bead of the conveyance belt so as to restrict a deflection of the conveyance belt in the thrust direction, and the driven roller is movable in the thrust direction against a deflection of the conveyance belt.

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16. The image forming apparatus as claimed in claim 15, wherein the bead is formed on each side of the conveyance belt in a direction of width thereof, and a clearance between a first end of the driven roller and the driven roller support means on a side of the first end of the driven roller is greater than a sum of a first clearance between a second end of the driven roller and the bead located on a side of the second end of the driven roller, a second clearance between a first end of the drive roller and the bead on a side of the first end of the drive roller, and a third clearance between a second end of the drive roller and the bead located on a side of the second end of the drive roller.

17. The image forming apparatus as claimed in claim 15, wherein the bead is provided on an inner side of the conveyance belt, and a groove is formed on a circumferential surface of the drive roller so that the bead is brought into engagement with the groove.

18. The image forming apparatus as claimed in claim 15, wherein a coefficient of friction between an end portion of the drive roller and the bead is set smaller than a coefficient of friction of a center portion of the drive roller and the bead.

19. The image forming apparatus as claimed in claim 18, wherein a taper is formed on an end surface of the drive roller so that, in an unoperated state, a non-tapered portion of the end surface overlaps a side surface of the bead.

20. The image forming apparatus as claimed in claim 19, further comprising a first rotational member constituting the center portion of the drive roller and a second rotational member constituting the end portion of the drive roller, wherein an outer diameter of the second rotational member is within a range of ± 1.0 mm of an outer diameter of the first rotational member.

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21. The image forming apparatus as claimed in claim 19, wherein a taper angle of the taper with respect to the end surface of the drive roller is set in a range from 10 degrees to 45 degrees.

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22. The image forming apparatus as claimed in claim 15, wherein an axis of the drive roller and an axis of the driven roller are substantially perpendicular to a direction of conveyance of a paper sheet, and the axis of the driven roller is inclined

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with respect to the axis of the drive roller.

23. The image forming apparatus as claimed in claim 22, wherein the bead is formed on one side of an inner surface of the conveyance belt so that, in an operated stated, the bead interferes with a lower one of opposite ends of the driven roller in operation.

24. The image forming apparatus as claimed in claim 23, wherein a taper is formed on an end surface of the drive roller so that, in an unoperated stated, a non-tapered portion of the end surface overlaps a side surface of the bead.

25. The image forming apparatus as claimed in claim 24, wherein a taper angle of the taper with respect to the end surface of the drive roller is set in a range from 10 degrees to 45 degrees.

26. The image forming apparatus as claimed in one of claims 15 to 24, wherein a frictional force in the thrust direction between the driven roller support means and the driven roller is smaller than a frictional force of the driven roller and the conveyance belt.

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27. The image forming apparatus as claimed in claim 15 to 24, wherein a coefficient of friction between the drive roller and the conveyance belt is greater than a coefficient of friction between the driven roller and the conveyance belt.

28. The image forming apparatus as claimed in claim 15 to 24, further comprising pressing means for pressing the conveyance belt to the drive roller, wherein the pressing means is located at a position opposite to the drive roller with the conveyance belt interposed therebetween.